

NOTES ON AUSTRALIAN *COLEOPTERA*: WITH
 DESCRIPTIONS OF NEW SPECIES OF
TENEBRIONIDÆ.

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NOTES ON SYNONYMY AND DISTRIBUTION.

The following notes were taken partly during my late visit to Europe, especially to the Museums of Brussels, Paris, London, and Oxford. The difficulty of travelling, even with a few cases of insects, restricted my comparison of specimens with types to those in the Natural History Museum, South Kensington, only. My notes refer only to the three families *Buprestidæ*, *Tenebrionidæ*, and, very briefly, *Cerambycidæ*.

BUPRESTIDÆ.

Cyphogaster MacFarlandi C. O. Waterh.—Specimens from Cairns differ chiefly from *C. venerea* Thoms., in having a lateral yellow vitta on the elytral basal half, which *C. venerea* lacks.

Astræus pygmæus van de Poll, is not a synonym of *A. Samouellei* Saund., as suggested by the Rev. T. Blackburn (these Proceedings, 1889, p.1256). *A. pygmæus* is much smaller, a considerable series collected by myself, from Sydney and the Blue Mountains, only varying from 4 to 5 mm. in length, while *A. Samouellei* Saund. (= *A. Mastersi* Macl.) measures from 8 to 9 mm.; and the strong differences in the markings, pointed out by van de Poll, hold true (Notes from Leyden Mus. Vol. viii., p.170).

Melobasis speciosa Blackb.= *M. gratiosissima* Thoms.—This synonymy is based on named specimens in the Kerremans Collection, lately acquired by the British Museum, compared with a specimen named for me by Mr. Blackburn. Thomson's name has priority.

Neocuris Mastersi Macl.=*Stigmodera liliputana* Thoms.=*S. ocellaris* Kerr.—I have long had little doubt but that the first-named species from Gayndah (of which I have a specimen, identified by Masters, from Gosford, N.S.W.) was a *Stigmodera*. Macleay's name being the older, a difficulty arises, since *S. Mastersi* is already a nom. præocc. There remains the alternative of using Thomson's name, *S. liliputana* Macl. (*nec* Thoms.) Mr. Blackburn has already pointed out the synonymy of *S. liliputana* Thoms., with *S. ocellaris* Kerr. (Trans. Roy. Soc. South Australia, 1900, p.42).

Stigmodera uniformis Kerr.=*S. graphisura* Thoms.—I have not seen Thomson's type, but it is scarcely possible to doubt this synonymy. I have specimens from Sydney, and from the Blue Mountains, which have been compared with Kerremans' type, and which also exactly fit Thomson's description. Thomson's publication was the earlier.

Stigmodera pallidipennis Blackb.=*S. mustelamajor* Thoms.=*S. gibbosa* Macl.—It appears to me that Mr. Blackburn's species is but a well marked local variety of *S. mustelamajor* Thoms., so far as the less widened prothorax goes; but the colouring is so variable in this species, especially in the metallic markings of the prothorax, that little can be deduced from this. I have specimens under the first name from South Australia; and of the second, from Queensland, given me by Mr. G. Masters. I have seen specimens also from the Blue Mountains, N.S.W. Of the identity of *S. mustelamajor* Thoms., with *S. gibbosa* Macl., there is no doubt.

Stigmodera subpura Blackb.=*S. postica* Thoms.—I have specimens of this, taken by myself in Sydney, and kindly identified by Mr. Blackburn as *S. subpura*, which exactly correspond to Thomson's description. In some specimens the "tache noire postérieure" is absent. Thomson's name has the precedence.

Stigmodera vigilans is not a synonym of *S. rectifasciata* Saund., as suggested by Mr. Blackburn (Trans. Roy. Soc. South Austr., 1900, p.42). I have specimens of *S. vigilans* Kerr., compared with type, taken in the Blue Mountains; while *S. rectifasciata*

Saund., is a fairly common Sydney species. In *S. vigilans* the size is smaller, the sides more parallel, the apical excision smaller, while the arrangement of the fasciæ is different. The basal fascia in *S. vigilans* is broader, nearer the base, and more continuous on the sides than in *S. rectifasciata*; the middle fascia is also continuous in its full width to the sides, whereas in Saunders' species it either does not meet the sides (as in fig. Journ. Linn. Soc. 1868) or is much narrowed in that region.

S. bicincta Boisd.—In Saunders' Catalogue, as also in Gemminger and Harold, this species is placed as a synonym of *S. bicingulata* Lap. et Gory. Masters' Catalogue has followed this, though Mr. Masters tells me that this is a mistake. And I have two distinct species, identified from the Macleay Museum as (1) *S. bicincta* Boisd., having the elytral intervals moderately raised, and each elytral apex tridentate, the two interior teeth close together, and longer than the exterior. (2) *S. bicingulata* Lap. et Gory, having the elytral intervals strongly costate, and each elytral apex bidentate, with the exterior tooth much the longer. I carefully examined the specimens in the Hope Museum, Oxford, and took drawings of the elytral apices of the two species labelled as above. According to the Hope specimens, the Macleay Museum has the labels reversed. What I have described above as (1) is *S. bicingulata* Lap. & Gory, while (2) is *S. bicincta* Boisd.

Germaria casuarinæ Blackb.—I have little doubt but that this is the insect described as *Aphanisticus liliputanus* Thoms.; but the entirely misleading and inadequate description is a strong justification for Mr. Blackburn's redescription. If, however, this synonymy is sustained, it must be known as *Germaria liliputanus* Thoms.

Alcinous minor Kerr.—I have a single specimen of this interesting species, described as from New South Wales. My insect, identified by Mr. Waterhouse, was sent to me by Mr. Dodd, from Kuranda, Queensland.

Stigmodera Helmsi Carter.—I took a good series of this Buprestid in the Victorian Alps, above 5000 feet, at the St. Bernard Hospice, in January of the present year. They were

feeding on the clumps of Aster flowers (*Olearia stellulata*). Otherwise only recorded from Kosciusko.

Pterohelæus Guerinii Brême.—I have little doubt but that this is the same insect described by Mr. Blackburn as *P. ventralis* (Trans. Roy. Soc. South Australia, Vol. xxx., 1907, p. 294). Several specimens of this apparently common insect were given me by Mr. Giles of the Zoological Gardens, Perth. On my visit to the Hope Museum, Oxford, I saw the specimen of *P. Guerinii* mentioned in De Brême's monograph, and which may therefore be taken as a cotype. Unfortunately I had not my own specimens with me for comparison, but the measurements and facies so agreed with my specimens that an examination of these a few days later satisfied me as to their identity with Hope's specimen. On my return to Australia Mr. Blackburn identified these as *P. ventralis*.

There is a curious mistake in De Brême's description (Mon. des Coss. p.36) in which the dimensions are given as $17 \times 12\frac{1}{2}$ mm., while the figure (Pl.ii., fig.3) measures 28×12 mm. If one reduces this length to 17 mm., the proportional breadth would be $7\frac{2}{7}$ mm. My own measurement of Hope's specimen is 18×8 mm., while Mr. Blackburn's dimensions for *P. ventralis* are $8 \times 3\frac{4}{5}$ l. De Brême's figure is thus correctly proportioned, while the width given under the description is a manifest error. Three specimens I now have, vary in length from 16 to 18 mm., and in width from 7 to $8\frac{1}{2}$ mm. De Brême gives no locality. Hope's specimen is labelled Australia, but, as many of his Tenebrionidæ are from West Australia, there is at least the probability of this being the correct locality, especially as the insect I refer to is common round Perth. Mr. Masters gives Tasmania as the habitat of *P. Guerinii*, but there is, I believe, no authority for this.* I cannot agree with Mr. Blackburn's suggestion that *P. Guerinii* Brême, may be synonymous with *P. tristis* Germ., since the dimensions of the latter are given as $8\frac{1}{2} \times 5$ l., evidently a much broader

*A non-pustulose insect from Tasmania, certainly not *P. Guerinii* Brême, is labelled so in the Australian Museum. This may be the origin of the locality-reference in Masters' Catalogue.

insect; also it is said only to be "apicem versus et lateralibus seriatim et remote subtiliter granulatis," while Hope's insect and my specimens have the elytra plainly and rather closely granulated from base to apex of elytra.

TENEBRIONIDÆ.

Phycosecis litoralis Pasc.=*P. algarum* Pasc.—Mr. Champion has pointed out the fact that this genus cannot be retained in the Heteromera (Trans. Ent. Soc. Lond. 1894, Part ii., p.364). I compared the types of these two species with specimens taken by myself at Sydney and Fremantle. The differences between the two type-specimens are, I think, due only to abrasion. Fresh specimens are covered with a white squamosity, easily removed, and in this case the insect is of a dirty brown colour.

Dipsaconia (Endophlœus) australis Hope.—The distinction between this and *D. pyritosa* Pasc., is little known to Australian collectors. *D. australis* is of a lighter colour, with distinctly costate elytra; while *E. pyritosa* is much darker, with shorter hairs, and elytra without distinct costæ. The first-mentioned is synonymous with *D. Bakewelli* Pasc., (*vide* Champion, Trans. Ent. Soc. Lond. 1894). My specimens of *D. australis* are from Tasmania; those of *D. pyritosa* are from Muswellbrook, N.S.W. The type is from Melbourne.

Arrhenoplita pygmæa Champ.: *Corticeus australis* Champ.:
Diphyrhynchus ellipticus Champ.: *Ectyche cœrulea* Champ.—I am indebted to the generosity of Mr. Champion for cotypes of these.

Helæus.—No identification of species in this genus should depend on the right or left prothoracic process overlapping. Thus in the Paris Museum, of two specimens labelled *H. perforatus* Latr., the type has the *right* overlapping the *left*, the second specimen has *left* over *right*. Of thirteen specimens in the British Museum labelled *H. perforatus* Latr., five have *left* over *right*, seven have *right* over *left*, while in one case these processes do not meet. Again, of nine specimens marked *H. colossus* Brême, six have *left* over *right*, while three have *right* over *left*.

Onosterrhus.—No Australian collection had, to my knowledge, an identified specimen of this genus. I was therefore glad to be able to determine two species of my own, by comparison with Bates' types. Its form is in general that of a small *Hypocilibe*; for structural differences see Trans. Ent. Soc. Lond. 1872, p.277.

Amphianax subcoriaceus Bates.—A smaller and narrower form, near *Agasthenes*, with the prothorax contracting in front.

Nyctozoilus Deyrollei Bates.—The author was unable to give a more definite habitat than Australia. I have a specimen given me by Mr. R. Helms, from Fern Hills, Victoria, which corresponds to the type.

Pediris (Upis) sulciger Boisd.—I have a specimen of this, taken by Mr. Hacker, in the Coen district, Cape York. This is the first record of its capture in Australia, though it appears to be common in New Guinea. Boisdual's locality is Amboyna.

Menephilus cyanipennis Hope, is probably a large specimen of *N. cœrulescens* Haag-Rut. Hope's type measures 12 mm. long, but seems otherwise identical, though unfortunately I had no specimens of *N. cœrulescens* at hand in my Oxford visit.

Menephilus convexiusculus Hope, is probably identical with *Meneristes servulus* Pasc.

Lepispilus stygianus Pasc.—After a close examination of the type (in a bad condition) I see no reason for altering my opinion as to the distinction of this species from *L. sulcicollis* Boisd., as expressed (these Proceedings, 1906, p.258). I took nine specimens of this species in the Victorian Alps, in January, 1909, identical with the Kosciusko insect and equally differentiated from *L. sulcicollis*.

Cardiothorax.—An examination of Bates' types has confirmed my opinion as to the synonymy of *C. fraternalis* Bates, *C. pithecius* Pasc., *C. errans* Pasc., and *C. valgipes* Bates (these Proceedings, 1906, p.237).

C. brevicollis Haag-Rut.—A specimen in Bates' Coll., labelled "Compared with type by Dr. Rogenhofer" is quite black, without hind angles to the prothorax, and is *not* the species so named in the Macleay Museum, as noted in my paper (*supra*).

Coripera Morleyana Cart., seems to be only a variety of *C. Mastersii* Macl., differing only in its possession of a light-coloured band round the elytra. The wide distribution is here worthy of note, *C. Morleyana* being taken on Mount Irvine (Blue Mountains), while *C. Mastersii* is from Gayndah. The varietal names should be preserved.

Chariotheca cupripennis Pasc., not hitherto recorded from Australia. I have two specimens from Cairns, which are identical with Pascoe's type from New Guinea.

Adelium forticorne Gebien (Fauna Süd-west Aust. Hamburg, 1908, p.343).—There is little doubt but that this is synonymous with *A. vicarium* Pasc., the originals of which, taken at Albany, were sent by Mr. Masters to Pascoe. I have cotypes of these which were also compared with Pascoe's type. Pascoe pointed out the subclaviform antennæ, also its similarity to *A. succisum* Pasc., (a synonym of *A. angulicolle* Castel., to which, Gebien says that his species is extremely similar). The only difference remarked by Herr Gebien between his species and *A. vicarium*, is the more strongly punctured head and prothorax; differences which may well be accounted for by the strong variations to be found in this character throughout the genus, and which may well be consistent with Pascoe's very meagre description.

CERAMBYCIDÆ.

The following six species of longicorns were identified by me in the British Museum. This is, I believe, the first record of them from Australia. They were all taken by Mr. H. Hacker in the Coen District, Cape York.

Aconista alphoides Pasc.

Gnoma affinis Guer., Voy. Coquille, 1830, p.136, pl.vii., fig.10, N. Guinea.

Monohammus captiosus Pasc., N. Guinea.

M. longicornis Thoms., N. Guinea.

M. magneticus Pasc.(?), N. Guinea.

The above, together with the two Tenebrionids mentioned, and the Cicindelid (*Tricondyla aptera*) recorded by Mr. Sloane, give

further evidence of the considerable overlapping of the insect-fauna of the Austro-Malayan regions with the true Australian fauna. The well known *Glenea picta* Fabr., is another example of this invasion.

Momisis melanura Gahan (Trans. Ent. Soc. Lond. 1901, pl. iv. has been identified for me by Mr. C. J. Gahan; also from Cape York, taken by Mr. Hacker.

Zoedia longipes van de Poll (Tijdschr. voor Ent. xxxiv., p.222, pl.13, 1891)—Identified by Mr. Gahan, from specimens taken by me near Wollongong.

STYRUS LATIOR, n.sp.

Elongate-ovate; above and beneath opaque black; antennæ, palpi, and tarsi fuscous.

Head somewhat triangular, labrum strongly emarginate, truncate and fringed with upright reddish hairs; epistoma rather flat, straight in front, rounded at sides, limited behind by sinuous impression continued obliquely to sides in front of antennal orbit; front widely channelled at centre with transverse impression between the eyes, the whole finely punctate and clothed with a rough derm; antennal orbits gradually widened and raised behind; antennæ with third joint longer than fourth and fifth combined, and cylindrical, joints 4-7 obconic, 8-11 nearly round and successively larger. *Prothorax* convex, wider than long (5 × 6 mm.), wider at base than apex (in the ratio 10 : 7), greatest width distinctly behind the middle, squarely emarginate anteriorly, front angles enclosing head to eyes, and acute, apex with thin upturned border at angles only; sides widely rounded, sinuate anteriorly, abruptly so posteriorly, hind angles widely acute (about 80°) and slightly directed outwards; lateral border thickened, upturned on anterior half and crenulate; base truncate and without raised border. Disc very uneven, with moderately wide lateral foliation, central line only indicated by large elongate fovea near base and a faint line near apex; and, like the head and elytra, covered with a close derm, beneath which are indications of punctures; faintly strigose at base and

sides, and with irregular longitudinal foveæ near sides. *Elytra* slightly convex, broadly ovate, wider than and just twice as long as prothorax; shoulders rather squarely rounded and wider than prothorax at base, sides gradually widening behind till near apical declivity; surface without definite costæ, or with two ill-defined costæ on each elytron, coarsely and irregularly alutaceous, with reticulation larger at base, becoming obsolete at apex, intervals coarsely foveate-punctate; lateral border narrow, only evident from above at shoulder and apex, and without lateral gutter; a single row of punctures on sides of the same size as the punctures on the intervals. Prosternum trilobed, produced a little backward and rounded at apex; the whole underside, with femora and tibiæ, finely and rather closely punctured; all tibiæ straight and minutely spinose at apex. Tarsi and extreme apex of tibiæ sparsely clothed with pale reddish hairs. *Dimensions*— 16×8.3 mm.

Hab.—Walcha, New South Wales.

Two specimens kindly given to me (and collected) by Dr. E. W. Ferguson, one in a mutilated condition and without tarsi. The type-specimen has moderately dilated tarsi, but is without any marked sexual characters. The species differs considerably from *S. elongatulus* Macl., and *S. clathratus* Blackb., in its widely rounded prothorax, more robust and dilated body, and irregular reticulate sculpture, as compared with the distinct costæ of the latter two species.

OSPIDUS PAROPSOIDES, n.sp.

Ovate, very convex, dull metallic purple-bronze.

Head and antennæ in structure similar to *O. chysomeloides* Pasc., but more closely and coarsely rugose, and with the whole surface less nitid. *Prothorax* more than twice as wide as long (3×7 mm.), widest at base, apex emarginate, anterior angles rounded but protruding considerably in front of the eyes; explanate margins flat, wide and rugose. Disc very convex, more finely and closely rugose than margins, lightly impressed in the middle and near the base on each side of middle; base bisinuate;

a narrow border only perceptible at apex. *Elytra* closely applied to, and of the same width as, prothorax at base, shoulders rectangular, sides curved and widened to two-thirds of the length, finely bordered and more narrowly explanate than in *O. chrysomeloides*. Disc very convex, with greatest height about middle, there slightly gibbous; humeral callus distinct; with lines of large punctures, irregular near suture, regular towards sides of disc, obsolete at apex and margins, the intervals somewhat vermiculately rugose; also two indistinct costæ on each elytron, namely, a short scutellary costa, and one on each side of suture continuous almost to apex. The whole underside and legs clothed with fine recumbent pale-coloured down. *Dimensions*— 11×8 mm.

Hab.—North Queensland.

I have a single specimen, received some time ago from Mr. H. Hacker (probably from Coen River). There are also specimens in the Macleay Museum. It differs widely from *O. chrysomeloides* Pasc., and *O. gibbus* Blackb., in its smaller size (Pascoe gives 6 lines for his species; my own three specimens of *O. chrysomeloides* measure 15 mm.), duller and more metallic colour, and coarser sculpture throughout.

Note.—In Masters' Catalogue a double misprint has occurred, first in the spelling of *Ospidus*, secondly in giving Castelnau as the author of this genus instead of Pascoe.

AGASTHENES GOUDIEI, n.sp. (Text-fig. 1).

Elongate-ovate, subparallel, black, moderately nitid, antennæ and tarsi piceous-black, the latter, together with apex of tibiæ, clothed with reddish pile.

Head: labrum strongly produced, punctulate, rounded at sides, and showing membranous hinge; epistoma truncate, bluntly subrectangular at sides, defined behind by bisinuate line indistinct in the middle; antennary orbits rising and widening in a regular curve towards base (not subparallel as in *A. Westwoodi* Bates), front and epistoma finely and rather distantly punctulate, eyes large, transverse and flatter than in *A. Westwoodi*; antennæ at

rest extending nearly to base of prothorax, third joint cylindrical, longer than fourth and fifth combined, 4-8 obconic, tenth spheroidal, eleventh much longer than tenth, ovoid and flattened, basal joints distinctly punctured, apical joints pilose. Tooth of submentum small and conical, submentum opaque and strongly punctured. *Prothorax* transverse (4×6.5 mm.), length measured in the middle, greatest width behind the middle, apex strongly arcuate-emarginate, anterior angles acute, produced forward beyond the eyes and outwards and a little reflexed; sides sinuate anteriorly, strongly widened towards basal third, then more abruptly sinuate towards hind angles, these acute and outwardly directed; base bisinuate, wider than apex, base and apex narrowly margined; sides with uniformly thickened upturned margins (less thickened and more uniform than in *A. Westwoodi*), not explanate

Fig. 1.

nor distinctly channelled within. Disc smooth, rather flat (much less convex than *A. Westwoodi*), with obscure traces of middle line and two large shallow depressions, one on each side of middle near base. *Scutellum* rather widely triangular and raised (less transverse than in *A. Westwoodi*). *Elytra* three times the length of prothorax, and wider than it (12×8 mm.), shoulders obtuse and subangulate, sides subparallel at basal half, then slightly widened; sides narrowly margined and channelled, and evident throughout from above, with a row of large marginal punctures on basal half, the whole surface irregularly and rather finely punctured, with three equidistant obscure costiform impressions on each elytron, becoming obsolete at base and apex, surface depressed near shoulders. *Prosternum* transversely strigose, prosternal process carinate at sides with apex produced, rounded and reflexed; *mesosternum* strongly carinated in the middle, *metasternum* channelled, *abdomen* with first two segments longitudinally strigose, two apical segments finely punctured, Femora and tibiae punctured, the latter very little enlarged and shortly spinose at the apex, with a thin line of red tomentum on the inside

on apical half. Structure of tarsi as in *A. Westwoodi*, but colour piceous (in *A. Westwoodi* reddish). *Dimensions*— 18×8 mm.

Hab.—Sea Lake, Victoria.

The unique type-specimen, probably ♀, has been sent by Mr. J. C. Goudie, taken by that gentleman during a flood. By the generous wish of Mr. Goudie, it, together with the type of *Hymcea laticollis* Cart., will be presented to the National Museum, Melbourne, in the cause of entomology; an example of public spirit much to be applauded. It is easily distinguished from its congeners by its flat and parallel form, and different structure of submentum, *inter alia*.

AGASTHENES FRENCHI, n.sp. (Text-fig. 2).

Moderately elongate, oval, opaque-black; antennæ, palpi, and underside deep reddish-brown.

Head: labrum not prominent, mandibles stout and triangular, epistoma subtruncate in front with sides parallel, angles subrectangular, scarcely separated from front by faint impressions at each side; antennal orbits widely rounded, extending outside the eyes, ocular furrow deeply impressed, extending about two-thirds of distance from the eye to epistoma; eyes larger than in *A. Westwoodi* Bates, front rather flat, and with epistoma closely punctured and finely longitudinally rugose. Antennæ not quite reaching base of prothorax, third joint longer than fourth and fifth combined, joints 4-7 somewhat cylindrical, 8-10 shorter and wider, eleventh longer than tenth, ovoid. *Prothorax* convex and transverse (5×7.5 mm., length in the middle) arcuate-emarginate in front, without marginal border, front angles prominent, acute, (less acute than in *A. Westwoodi*), directed forwards, sides anteriorly rather straight, very gradually widening till near base, greatest width near base, then rather abruptly but evenly rounded and strongly constricted; hind angles rectangular, dentate deflected and twisted, so that basal edge is almost vertical;



FIG. 2.

lateral border scarcely differentiated from disc, recurved towards base, and, with it, closely, finely, evenly and distinctly punctured; base subtruncate, very narrowly bordered. Disc convex, a little foliate at the sides, these hollowed near base, flatter and more horizontal anteriorly. Central line very feebly indicated by smooth interval on centre; a transverse impression near to and parallel with base. *Scutellum* widely transverse, triangular, punctulate, carinate in the middle, raised anteriorly and strongly depressed behind. *Elytra* (10.5×8.5 mm.) moderately convex, widely ovate, epipleural border a little raised at shoulders, these rounded: slightly narrower than prothorax at base, then rather widely rounded, greatest width about middle, bluntly tapering at apex. Sides narrowly bordered, this border not continued on base, and throughout seen from above, with narrow horizontal margin, with a row of evenly placed, rather distant and not large punctures continued almost to apex. Disc smooth, except for faint indications of three subobsolete costæ quite disappearing on apical declivity, and even, minute, rather close surface-punctures. Submentum coarsely punctured, with prominent triangular tooth, gula without longitudinal furrow, prosternum and underside of femora coarsely, abdomen more finely, closely punctured. Tibiæ straight and feebly spinose at apex, first joint of posterior tarsi as long as the rest combined. *Dimensions*— 16.5×8.5 mm.

Hab.—Murchison District, West Australia.

A single specimen, kindly presented by Mr. C. French, to whom I dedicate it. Easily distinguished from *A. Westwoodi* Bates, by shorter, wider form, and the very different prothorax (wider anterior angles, thin and opaque lateral border, and general shape). The form of prothorax is somewhat trapezoidal, sides almost straight, gradually widening from apex to base, so that the maximum width is almost at the hind angles. It seems to me a mistake to define the genus of a group like the *Nyctozoilides* as rigidly in smaller details as Bates has done in the case of *Agasthenes*, as almost every new species would require a new genus. In this case Bates' generic diagnosis must be slightly modified to include *A. Frenchi*, since (1) the gula is without a longitudinal

furrow; (2) the antennal orbits are rounded; (3) the elytra are without any basal margin. Type in the author's coll.

AGASTHENES STEPHENI, n.sp. (Text-figs. 3a-3b).

Elongate, ovate, black, smooth, opaque; labrum and oral organs piceous; antennæ piceous at base, lighter towards apex.

Head wide; labrum prominent, transverse with rounded angles, clothed with reddish hair; antennæ with first two joints short, third not quite so long as the fourth and fifth combined, joints 3-7 subconical, 8-11 much shorter, subspheroidal and flattened; front and epistoma finely punctulate. *Prothorax* strongly transverse and moderately convex, much wider than long (6 × 10 mm), arcuately emarginate in front, front angles scarcely acute, rather bluntly rounded, sides gradually widened to beyond the middle, but constricted near base, hind angles acute, directed obliquely backward, lateral margins rather wide, edges strongly thickened; apex bordered only near anterior angles, base with narrow border throughout. Disc nearly smooth, towards the sides minutely punctured (not visible to the naked eye). *Scutellum* convex, very widely transversely triangular. *Elytra* convex, elongate-ovate, smooth except for the single row of punctures at margin, not extending to apex; wider than prothorax at base. At each side a shallow furrow from shoulder to apex; shoulders not prominent, margins reflexed throughout, especially at shoulders. Beneath black; abdomen with faint longitudinal wrinkles; submentum finely punctulate, metathorax and abdomen smooth; femora finely punctured, tarsi and tibiæ (near apex) clothed with golden tomentum. Intercostal process widely curvilinear and subtruncate. *Dimensions*—

Long. 21-22 mm.; lat. 10-11.5 mm.

Hab.—Forbes, Weddin Forest, Canbelego, N.S.W.



Fig. 3a. ♂



Fig. 3b.
Anterior tarsus.
♀

Five specimens are before me; two, taken by Mr. Cox from Weddin Forest, near Young, are, I consider, males, as also one taken by Mr. P. Shaw at Canbelego; while two from Forbes, sent by Mr. Alfred Stephen, are both female. If I am correct in this, the male has a remarkable sexual distinction in the abnormal enlargement of the basal joint of the anterior tarsi, which is not found in the female. The same joints of the intermediate tarsi are enlarged to a much less degree in the same specimens. The Forbes (♀) specimens are wider and less parallel in form, with a slightly steeper apical declivity. I do not think it likely that there are two species in the above, the only differences (noted above) being entirely referable to sexual characters.

A. Stepheni is, by its more convex form and more rounded front angles of prothorax, intermediate between *Agasthenes* and *Hypocilibe*; but I am sure that no student of the Tenebrionidæ could place it in a different genus from *A. Westwoodi* Bates, although one modification of Bates' generic diagnosis is necessary for its reception, *i e.*, the very acute front angles in *A. Westwoodi* should be considered as a specific rather than a generic character. Types in author's coll.

Var. i. a ♀ specimen from Mildura, Victoria, is of shorter and more convex form, but is otherwise identical with the above.

AGASTHENES WESTWOODI Bates.

I have received an undoubted specimen of this rare insect from Mr. H. Giles of the Zoological Gardens, Perth, taken at Kellerberrin, West Australia. As the unique type, in the British Museum, is without palpi, tarsi, and the five apical joints of the antennæ, I will describe these. Palpi and antennæ chestnut-red; the maxillary palpi long, with apical joint narrowly cultriform. Antennæ with first joint short, thick and cylindrical; second very short and bead-like, joints 3-7 subconic, third about as long as the fourth and fifth combined, joints 8-11 much shorter than the preceding, slightly thickened, more hairy and of a paler red colour, apical joint prolate-spheroidal. *Tarsi*: anterior and intermediate, with basal joint as long as, but not wider than, the

second and third combined, the claw-joint much the longest. Posterior with basal joint as long as the rest together, claw-joint shorter than that of the anterior or intermediate tarsi. Probably ♀.

ÆTHALIDES PUNCTIPENNIS Bates.

(Ent. Mo. Mag. x. 1873, p.50.)

It seems probable that Mr. Bates' locality, given as West Australia, is incorrect. I have three specimens, two of which I compared with Bates' type. These two were given me by Mr. Sloane, without locality-labels, probably from Mulwala, Murray River. I have since received a third specimen from Mr. Goudie, taken at Birchip in N.W. Victoria; while two specimens in the Macleay Museum are labelled Murray R. It is possible, but improbable, that this genus has an extended range westward. This genus and species were omitted from Mr. Masters' Catalogue.

ÆTHALIDES COSTIPENNIS, n.sp. (Text-fig. 4)

Elongate-ovate, convex, prothorax dull black, elytra slightly shining.

Head: labrum emarginate, truncate, and closely setiferous; epistoma truncate, not raised, and separated from front by a well marked curved impression; antennal orbits sinuously rounded, and little raised; front and epistoma distinctly and not very closely punctulate. *Antennæ*: third joint as long as fourth and fifth combined, joints 4-7 longer than broad, 8-10 almost globular, 9th and 10th smaller than 8th, apical joint longer than the tenth, ellipsoidal. *Prothorax* transverse, length to width in the ratio 5:8, widest at middle, wider at base than at apex (7 and 5 mm. respectively), anterior angles prominent and obtuse, sides rather widely rounded and a little explanate; posterior angles obtuse and slightly deflected. Sides and front angle strongly margined and reflexed, the margin becoming obsolete at base and apex. Base widely lobed, this lobe emphasised by a transverse impression not far from base. Disc rather opaque



Fig. 4.

verse impression not far from base. Disc rather opaque

and punctured like the head. The narrow explanate border slightly rugose. Scutellum widely transverse. *Elytra* oblong-ovate, broader than prothorax at base, shoulders widely rounded, with epipleural fold forming a narrow upturned border; sides subparallel till near apex, apical declivity steep. Disc coarsely and irregularly punctured, most strongly on the sides and middle, punctures becoming less distinct towards apex; interstices convex and alutaceous; each elytron with three well marked costæ about equidistant from each other and from the sides; of these the first two approach one another near the base (in one specimen, out of five under observation, they actually meet), the third starting from the shoulder, all three becoming obsolete on apical declivity; the suture itself forming a fourth double costa which bifurcates near the scutellum, the branches leading off to join the first costa at the base. Beneath black, shining; tibiæ and tarsi clothed with fulvous hair. *Dimensions*—18-20 × 9-10mm.

Hab.—Cootamundra, N.S.W.; taken by my son, E. M. Carter.

Evidently an ally of *Æ. punctipennis* Bates, of which I have specimens which I have compared with Bates' type. From this species the chief differences are (1) greater size, (2) wider margin of prothorax, (3) narrower and less vertically placed head, (4) much coarser reticulation, and well marked costæ of the elytral sculpture.

The only sexual difference that is easily apparent is the slightly enlarged basal anterior tarsus of the male. In the genus *Æthalides* the submental tooth is not so definite as in *Hypocilibe*; and, if my diagnosis is correct, the submentum should be rather described as lobed than toothed. The mandibles are very wide at the base, concave, channelled in the middle, and margined at the sides, rather abruptly narrowing to the apex. In *Hypocilibe* the mandibles are generally much narrower at the base, and scarcely, if at all, concave. Type in author's coll.

ÆTHALIDES MARGINICOLLIS, n.sp. (Text-fig. 5).

Male oblong-oval, convex, black, slightly shining (more so than in *A. punctipennis* Bates).

Head: labrum emarginate, punctate, truncate with rounded angles, clothed at apex with reddish hairs and separated from the epistoma by membrane; mandibles grooved and punctured above. Epistoma concave, truncate with rounded but scarcely reflexed angles; separated from the front by sinuate impression, and with the front closely and finely punctate; antennal orbits widened, parabolically rounded, eyes very narrow. Third joint of antennæ less than fourth and fifth combined, joints 4-7 obconic, 8-10 round, apical joint oval. *Prothorax* transverse, less convex, but smoother than *A. punctipennis*, very minutely punctured, punctures more

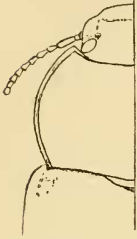


Fig. 5.

evident towards sides, width not quite twice the length (4.5×7.5 mm.), the greatest width behind the middle; front angles prominent and acute, sides moderately rounded and slightly sinuate near posterior angles, these widely acute and a little outwardly directed; base truncate. Lateral margins thick, rounded and upturned, terminated behind at the posterior angles, in front continued, *but much thinner*, to a little behind the emarginate anterior angle. Disc with slight irregular depressions near base. Scutellum very transverse and smooth. *Elytra* wider than prothorax, convex, shoulders rounded, sides a little widened towards apex, with eight indistinct costiform impressions, on each elytron including the suture which is slightly raised. Of these the third, fifth, and seventh are more prominent; between these are indistinct, irregularly placed, shallow foveate punctures, with occasional faint indications of reticulation, especially towards sides and apex. Lateral row of punctures large and close, the sides bordered throughout by a narrow upturned margin. Submentum and sternum strongly and not distantly punctured, submental tooth wide and prominent, prosternum bordered at apex by fringe of reddish hairs; episternal process wide, carinated at the sides and truncate at the apex. Abdomen longitudinally wrinkled and finely punctured. Epipleuræ nearly smooth; femora and tibiæ punctured, the latter, with the tarsi, clothed

with reddish hair. Posterior basal tarsi as long as the rest combined (excluding the claws), anterior tarsi without marked sexual characters. *Dimensions*— 17×9 mm.

♀. Longer and more parallel, anterior tarsi slightly narrower. *Dimensions* 18×9.2 mm.

Hab.—Birchip, Victoria, and Wimmera District; (from Mr. J. C. Goudie and Mr. C. French).

Easily distinguished from *A. punctipennis* and *A. costipennis* by its wider border to pronotum, and different elytral sculpture. The female specimen is much more nitid than the male, but this appears to be due to immersion in spirit, and is evidently a more worn specimen than the male from Birchip. The female-type has been returned to Mr. French.

ÆTHALIDES DECEMCOSTATA, n.sp. (Text-fig. 6).

May be best described by comparison with the former two species. Colour as in *A. costipennis*, opaque black.

Head in structure like *A. marginicollis*, but finely punctulate as in *A. costipennis*. Third antennal joint equal to fourth and fifth combined.

Prothorax: convexity as in *A. costipennis*, with anterior angles very acute and more prominent than in *A. marginicollis*, with sides and front angles even more thickly margined than in that species. This margin emphasised by a distinct gutter within the margin. Sides widely rounded as in *A. costipennis*, but more sinuously incurved towards the posterior angles, which are deflected and acute. *Elytra* each with five distinct, rounded costæ. The first divided by the suture, bifurcates near the scutellum, forming the triangular depression behind it, the branches scarcely reaching the base; the second and third,

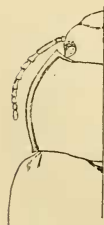


Fig. 6.

at about equal intervals from each other and from the the suture, join near the apical declivity, and are then merged into the indefinite rugosity of the intervals; the fourth, joined to the fifth near the shoulder, is continuous almost to the

apex; while the fifth is near and parallel to the sides, becoming obsolete at the apical declivity. The intervals are coarsely and subalutaceously punctulate as in *A. marginicollis*. The basal joint of the front tarsi is distinctly longer than each of the next three. *Dimensions*—16 × 8 mm.

Hab.—Grampians, Victoria. A single specimen (♂?) from Mr. C. French. Type in the author's coll.

BYALLIUS OVENSSENSIS, n.sp.

Differs from *B. reticulatus* Pasc., in the following particulars.

Head more finely punctured, eyes smaller, antennæ stouter. *Prothorax* much wider at apex, with acute anterior angles much more emarginate and obliquely curved outwards; sides more sinuately widened near apex, posterior angles rectangular, but more deflected and outwardly directed. Lateral margins much thicker, shining, rounded, and less recurved. Disc flatter and much more finely punctured. *Elytra* less distinctly costate, intervals more coarsely rugose and much more finely punctured. *Abdomen* with first two segments longitudinally strigose, and, like the sternum, finely punctate. (In *B. reticulatus* the abdomen is *not* strigose and, like the sternum, coarsely punctate throughout). Legs shorter and much less strongly punctate. *Dimensions*—20 × 8 mm.

Hab.—Bright and Fern Hills, Victoria. Taken by the author. Also from Messrs. Helms and French.

The capture, by the author, of a specimen of what is evidently the true *B. reticulatus* Pasc., at Cunningham, Gippsland, has convinced me that I was mistaken in my former identification of that species. The two species are superficially so alike that, when examining the type, greater latitude for variation was allowed than I now think to be admissible. *B. ovensensis* is, therefore, the species that I compared with *B. kosciuskoanus* (these Proceedings, Vol. xxxiii., p.412). Type in author's coll.

BYALLIUS MASTERSII, n.sp.

Elongate-ovate, convex, black, pronotum opaque, elytra moderately shining, antennæ, palpi, and tarsi piceous, underside of tarsi and tibiæ clothed with golden pubescence.

Head with frontal punctures more distinct than in the former species. Antennal orbits less widely rounded, forehead more convex and rather deeply impressed by a central longitudinal furrow widening anteriorly; antennæ much slenderer, especially as to basal joints, third joint distinctly longer than the fourth and fifth combined. *Prothorax* wider than long (5×6 mm.), length measured at middle, very convex, anterior angles emarginate and acute, directed forwards, apex semicircular, margined only at angles, lateral borders strongly thickened and scarcely recurved, slightly sinuate anteriorly and posteriorly, greatest width about the middle; posterior angles acute and a little overlapping elytra, base closely fitting elytra and feebly bisinuate. Disc not perceptibly punctured, with central channel distinctly impressed throughout (the only case in the four known species; in *B. reticulatus* this channel is slightly indicated by a smooth line), with two large shallow elliptic impressions near centre, one on each side, and close to, the central line. *Scutellum* widely transverse and very narrow, elytra triangularly depressed behind. *Elytra* moderately convex longitudinally, strongly so transversely, sides and apical declivity very steep: at base wider than prothorax, humeral angles obtuse but distinct; sides with narrowly reverted border (only apparent at shoulders and apex when seen from above), gradually widening till near apical declivity, then abruptly narrowing, apex rounded and a little horizontally channelled in that region. Each elytron clearly, equidistantly tricostate, first costæ not reaching the base, suture itself convex (scarcely costate), space between first costæ irregularly impressed with large (and a few smaller) foveate punctures, other costal intervals reticulately, but not rugosely, foveate, with a single row of large punctures on margin extending to apex. Submentum and throat with large and rather distant, round punctures, prosternum smooth with a few transverse striæ, mesosternum carinate, closely and coarsely punctured, prosternal process bluntly produced backwards and notched on each side. Abdomen minutely punctured, with first two segments a little strigose at anterior edges. Femora finely, tibiæ (especially towards apex) coarsely

punctured on the undersides. [Front tarsi wanting]. *Dimensions*— 19×8.5 mm.

Hab.—Interior of New South Wales (Condobolin).

A specimen (probably ♀) is under examination from the Macleay Museum, through the courtesy of Mr. G. Masters. It is readily distinguished from the other three species by (1) convex and channelled head, (2) scarcely recurved prothoracic border, and acute posterior angles, with canaliculate disc, (3) narrow but very transverse scutellum, with triangular depression behind, (4) nonrugose and foveate elytra, and (5) greater convexity in both directions. Type in Macleay Museum.

Four distinct species are before me, differentiated as follows:—

1. *B. reticulatus* Pasc.—Prothorax with lateral border moderately wide and strongly recurved; disc strongly punctured (evident to the naked eye). Elytral intervals and undersurface strongly punctate.

2. *B. ovensensis* Cart.—Prothorax with anterior angles much more emarginate, lateral border strongly thickened and less recurved. Discal punctures very fine (not evident to the naked eye). Elytral intervals and under surface much less strongly punctate, first two segments of abdomen strigose.

3. *B. kosciuskoanus* Cart.—Prothorax with anterior angles not prominent, lateral border less thickened than in 2, and strongly recurved only near apex. Posterior angle widely obtuse and not deflected. Discal punctures as in *B. ovensensis*. Abdomen not strigose, but punctures finer than in 1.

4. *B. Mastersii* Cart.—Forehead and prothorax distinctly canaliculate, acute posterior angles and scarcely recurved border to prothorax. Disc smooth. Scutellum narrowly transverse and accompanying elytral depression. Elytra foveate but not rugose. The whole more convex, and apical declivity nearly vertical.

CARDIOTHORAX MIMUS, n.sp.

Elongate-ovate, depressed, blackish-brown, opaque.

Head with frontal impression almost circular, basal joints of antennæ slender, succeeding joints stouter to the apex, each joint

furnished at its apex with stout whitish bristles, apical joint largest and thickly covered with such bristles. *Prothorax* cordiform, widest considerably in front of middle, anterior angles prominent and obtuse; sides widely rounded and parabolically constricted towards the base, posterior angles forming a slender process directed backwards as in *C. egerius* Pasc.; foliaceous margins wide and slightly upturned, the anterior half separated from the disc by a deep curved sulcus; border raised, not shining, throughout, most evident at apex. Disc nearly flat, central line distinct, an elongate foveate depression on each side. *Elytra* elongate-ovate, shoulders obsolete, disc rather flat; striate, with six striæ on each elytron shallowly and indistinctly punctured; intervals rough and obsoletely punctulate; margined by a strong crenulate costa, roughly punctured. Exterior to this costa, on the curved side of each elytron, are two more rows of subfoveate punctures separated from the true epipleura by a costate border less elevated than the preceding but meeting it near the shoulder and near the apex. Upper half of epipleuræ with two similar rows of punctures to the two marginal series; lower half smooth. Legs smooth, with under surface glossy black, femora unarmed. Body beneath black, smooth and opaque. *Dimensions*—14 × 5 mm.

Hab.—Tambourine Mountain, Queensland; from Mr. R. Illidge.

The above is, I believe, a female, but I have also a specimen, which I take to be a male of the same species, given me by Mr. Cox, bearing a label "Ex Coll. Froggatt," probably from the Tweed River district. This differs from the above in the following particulars, which I therefore call *var. A*.

Var. A.—Anterior angles of prothorax much more acutely and squarely produced, as in *C. egerius* Pasc. Elytral sculpture less distinct (possibly from abrasion and grease), with the outside costa obsolete, and the inside or submarginal costa less strongly marked. *Dimensions*—12.1 × 4.2 mm.

The above insects strongly resemble *C. egerius* Pasc., in colour and form, especially in the peculiarly lobate hind angle of prothorax; but they are clearly differentiated from that species in size, and in the absence of the alternate costiform intervals on

the elytra which characterise Pascoe's species. I would take this occasion to add that the figure given in the *Journal of Entomology* for 1866 (Pl. xix., fig.4) is misleading, in that, (1) it gives an inadequate picture of the lobate hind angles of prothorax, (2) it greatly exaggerates the obovate elytra. In a series taken by myself, specimens of which I have compared with the type, none are enlarged posteriorly to the same extent as in the figure. Two specimens in my collection measured as follows: ♂.19 × 5½ mm.; ♀.20 × 6½ mm.; whereas the measurements of the figure given, if reduced to the same standard of length as my female specimen, would be 20 × 7⅓ mm.

CARDIOTHORAX CARINATUS, n.sp. (Text-fig. 7).

Elongate, black, prothorax opaque, elytra nitid, antennæ, palpi, and tarsi reddish.

Head with labrum emarginate, slightly concave in front and fringed with a few golden hairs, epistoma with front edge trilinear (*i.e.*, truncate in front, angulately rounded towards the sides); frontal impression rather square; antennæ thick and, with the palpi, clothed with short golden pile. *Prothorax* 5 × 7 mm., the length being measured along the middle, the greatest width behind the middle, the anterior angles strongly produced but rounded and reflexed at the tip, wider at apex than at base (5 mm. and 3 mm. respectively), the latter strongly bisinuate; sides widely and parabolically rounded, with edges thick, shining, not reflexed and coarsely crenate throughout except near hind angles; posterior angular process widely truncate, directed obliquely outwards; foliaceous margins wide, separated from the disc throughout by a deep curved sulcus, much wider in front than behind; median line well defined, widely channelled at the base; at each side of this is an irregular elongate depression, curved and nearly meeting behind, the insulated central part of disc raised, rugose and terminated at the apical border by two raised



Fig. 7.

triangular humps; the foliaceous sides obliquely striolated across the anterior angles. *Elytra* wider than prothorax, slightly convex, broad at the base, sides slightly dilating towards the apical third, abruptly declivous behind; a triangular depression behind the scutellum; shoulders widely rounded, with unusually strongly reflexed epipleural fold; with four shining carinate costæ on each elytron; of these the first and fourth connected near the apex, the second and third not connected, the second shorter than the third apically, and the third and fourth not reaching the base; between these (one outside) are five slightly convex intervals of a dull black becoming subobsolete towards the apex, entirely impunctate; the suture also itself shining and bicostate, though less raised than the four costæ mentioned above. *Epipleuræ* subconvex with an evident central ridge. (N.B.—In *C. crenulicollis* Bates, the epipleuræ are concave, with a central depressed line). *Abdomen* smooth and shining; *femora* transversely striolate; *tarsi* and apex of tibiæ clothed with golden hairs. *Dimensions*— 20×7.5 mm.

Hab.—Mount Garnet, North Queensland (sent by C. French, Esq., F.L.S., of Melbourne).

This interesting ally of *C. crenulicollis* Bates, may, at first sight, be mistaken for an exaggerated variety of that species; but the striking differences pointed out in the diagnosis are evidently specific; *e.g.*, the coarsely crenulated throughout, *unreflected* edge of the prothorax, the blunt and turned-back tip of the anterior angle, the widely truncated posterior angular process, the two triangular nodules on the anterior disc, the carinate-costate elytra in strong contrast to the low, level, intermediate intervals, the ridged epipleuræ, the more strongly widened prothorax, &c., &c. Two examples were sent, both probably female, judging by the comparative slightness of the femora. (The strong characters described above are a sufficient justification for publishing a description of the one sex, especially since its nearest ally, *C. crenulicollis*, shows little sexual differentiation).

APASIS BEPLEGENOIDES, n.sp. (Text-fig. 8).

Elongate-ovate, upper surface dark copper-bronze, very nitid; beneath darker; antennæ, palpi, and tarsi piceous-red, tibiæ and tarsi clothed beneath with light red hair.

Head somewhat triangular and strongly protruding from thorax, labrum prominent and punctulate, epistomal ridge prominent, with front edge concave, sides oblique, forehead squarely depressed, limited in front and on sides by well marked sutures, and behind by indistinct horse-shoe impression, coarsely punctulate. Eyes small, oblique, coarsely faceted, with hollow impression behind the eyes, neck finely punctured; antennæ stout and long, in both sexes extending beyond the base of prothorax, longer in male, third joint about equal to fourth and fifth combined, eleventh longer than tenth and acuminate. *Prothorax* in ♀ as wide as long, in ♂ rather longer than wide, truncate at base and apex; convex, without lateral foliation, sides regularly rounded, widest at middle, at apex a little wider than head; anterior angles obtuse and unseen from above, posterior angles

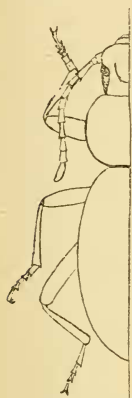


Fig. 8.

widely obtuse and only indicated by slight enlargement of border in that region; border very narrow throughout and a little raised; central channel well marked; disc with two large foveæ near base, two large foveate impressions towards the sides, and several large scattered setiferous punctures, the whole minutely punctured. *Scutellum* raised, triangular and punctulate. *Elytra* rather narrowly ovate in ♂, widely in ♀, shoulders obsolete; regularly striate-sulcate, with six striæ on the upper surface of each elytron and two more on the sides; intervals equal, slightly convex and apparently quite smooth except for a few small setæ near the base and sides, each bearing a long, thin, upright hair; epipleuræ quite smooth, abdomen smooth and shiny, prosternum a little transversely strigose; metasternum and femora with scattered hairs; intermediate

tibiæ curved, the others straight. *Dimensions*—♂.18 × 6 mm.; ♀.20 × 8 mm.

Hab.—Victorian Alps, at 5000 feet altitude.

Three specimens, one male, two female, were taken by the author (one under a stone of the cairn on the summit of Mount Blowhard, near St. Bernard Hospice). Three other specimens from Warburton, Victoria, have been given me by Mr. C. French. The Warburton specimens differ slightly from the Alpine in being smaller, more brilliantly metallic, and presenting some differences in the position and size of the prothoracic foveæ. The species can be readily distinguished from *A. Howittii* and *A. puncticeps* by colour, by its impunctate, more convex, distinctly channelled and constricted prothorax, and by its more strongly sulcate elytra. In general outline it strongly resembles *Beplegenes*, as also in the great distance of the eyes from the prothorax. The usual strong sexual differences in the tarsi, characteristic of the genus, are to be noticed.

Apasis Howittii Pasc.—I have been much puzzled by the great variations exhibited in what I take to be this species. Specimens taken by myself at Mount Macedon exactly correspond to Pascoe's rather meagre description, and to his figure (*Ann. Mag. Nat. Hist.* Ser. 4, iii, p.140, pl. xi.), and were, moreover, compared with the type. The two specimens*, both male, in the Macleay Museum, which were sent (so Mr. Masters informs me) by Dr. Howitt, from whom also Pascoe obtained his specimens, differ considerably from my own in being much smaller, more convex and coppery [*e.g.*, length 15 mm., while Pascoe gives 10 lines (*or 20 mm.*)]. I have lately taken a series of *Apasis* in the Victorian Alps (Mount Buffalo and St. Bernard) which present even greater differences. While hesitating to describe these as a new species, I would provisionally name the variety to distinguish it

var. *A. longicollis*.

Larger, flatter and more robust than *A. Howittii*, colour coal-black, shining, submentum strongly grooved longitudinally

* I have closely examined these, and find them identical with the species I have described above as *A. beplegenoides*. Dr. Howitt thus appears to have collected two species without noting their difference.

throughout (in *A. Howittii* only grooved anteriorly). *Prothorax* longer than broad (6×5 mm.) and very slightly widened at middle (in *A. Howittii* the length and breadth are about equal, and the sides distinctly rounded; in *A. puncticeps* Lea, they are still more widely rounded). Intermediate tibiæ curved (in *A. Howittii* straight). *Dimensions*—♂. $21 \times 6\frac{1}{2}$ mm.; ♀. $21\frac{1}{2} \times 7\frac{1}{2}$ mm.

Hab.—Victorian Alps.

The sexual differences in the tarsi are strongly marked.

ADÉLIUM FOVEATUM, n.sp.

Oval, light bronze, prothorax slightly, elytra more, nitid, beneath glossy black, antennæ and palpi piceous, tarsi reddish on their upper surface, clothed below with grey tomentum.

Head: labrum strongly emarginate and punctulate, clothed with greyish hair, apex truncate and base widened; maxillary palpi unusually long, epistoma strongly punctulate, separated from front by curved depression, front rugosely punctulate; antennæ about extending to the base of prothorax, third joint distinctly shorter than the fourth and fifth combined, each succeeding joint slightly wider than the preceding, eleventh much the longest, ovoid with rather pointed apex. *Prothorax* wider than long (2.5×4 mm.), circularly emarginate at apex, nearly truncate at base, sides evenly and rather widely rounded, scarcely sinuate near base, and narrowly bordered throughout; anterior angles obtuse and rounded, posterior angles distinct and obtuse; subfoliaceous margin wide and flat towards base, a little convex anteriorly, separating sulcus variable but always indistinct, in general indicated by an elongate fovea. Disc slightly convex, general surface unevenly rugose but thickly punctulate with punctures of the same size as those on the head. A few larger punctures irregularly scattered on disc, more thickly on the margins. *Scutellum* curvilinear triangular, distinctly punctulate. *Elytra* oval, rather narrowly pointed apically, sides not at all widening behind the base, wider than prothorax at base, shoulders rounded, and emphasised by slightly reflexed epipleural border; disc rather flat, each elytron with seven lines of fine punctures;

between the first and second, third and fourth, fifth and sixth are regular rows of about six large foveæ, themselves contained in larger depressions, giving a wavy appearance to the surface. The rounded sides and epipleuræ coarsely punctulate. *Abdomen* with large foveate impressions near the sides. *Prosternum* sharply carinate; intercoxal process semicircular, entire and not produced backwards. *Dimensions*— 10×4.5 mm.

Hab.—Mount Horror, Tasmania (Mr. A. M. Lea).

Four specimens are under examination, kindly sent me by Mr. A. M. Lea, the well known entomologist of the Agricultural Department of Tasmania. While allied to *A. abbreviatum* Boisd., the differences are well marked but not easy to define. To facilitate identification the following table of comparison will be of assistance :—

<i>A. foveatum.</i>	<i>A. abbreviatum.</i>
<i>Size</i> smaller, 10×4.5 mm., narrower and less convex.	<i>Size</i> larger, 11×5.5 mm., wider and more convex.
<i>Colour</i> less nitid, especially on prothorax, lighter bronze.	<i>Colour</i> more nitid, darker bronze.
<i>Pronotum</i> very uneven and rugose, subfoliaceous margins more distinct.	<i>Pronotum</i> shining and scarcely rugose, margins less distinct.
<i>Elytra</i> : general surface wavy, large foveæ at regular intervals.	<i>Elytra</i> : general surface smooth, large foveæ irregularly placed.
<i>Prosternum</i> strongly carinate. Tomentose clothing of tarsi grey. Posterior intercoxal process semicircular, not produced backwards.	<i>Prosternum</i> not carinate. Tomentose clothing of tarsi red. Intercoxal process nearly truncate in front, with carinate edge produced backwards.

I have not been able to detect any sexual differences in the specimens.

ADELIUM CUPRESCENS, n.sp.

Compact, widely ovate, convex, a brilliant shining copper; antennæ, palpi, knees and tarsi piceous-red; beneath black and very nitid.

Head: labrum prominent and punctate, clypeus raised, straight, and, with the front, coarsely punctulate, continued backwards by a strongly raised ridge at right angles to clypeus extending to the inside of the eye; front thus squarely depressed, eyes large and prominent; antennæ extending beyond the base of prothorax, third joint at least equal to fourth and fifth combined, joints 4-10 obconic, gradually thickening towards apex and tending to become more ovate; eleventh elongate-ovate, longer and wider than tenth; mentum and submentum with large round punctures. *Prothorax* transverse (3×4.5 mm.), convex, without lateral foliation, apex rather circular, anterior angles emarginate, acute (about 80°) and a little recurved at the tips, sides sinuate, in front slightly, abruptly near base, widely rounded to greatest width behind the middle, posterior angles distinct and rectangular. Border at base, sides, and apex narrow, of equal width, recurved only at sides. Disc without central line, finely and regularly punctulate, with a few larger setiferous punctures irregularly scattered on surface. *Scutellum* small, transverse, and coarsely punctulate. *Elytra* rather squarely ovate, distinctly wider than prothorax, convex and widely rounded at apex, shoulders moderate; coarsely punctate-striate, each elytron with ten rows of large, round, evenly and closely placed foveate punctures placed in striæ, of which two rows are on the sides; punctures on outside row much larger than the rest and wider apart (4 on outside row occupy the space of 6 in adjacent row). The intervals strongly convex and closely punctured; epipleuræ coarsely punctulate, prosternum and abdomen very minutely punctured. Front tibiæ straight, intermediate and hind tibiæ rather strongly bowed, and compressed near apex. Intercoxal process semicircular, with raised margin. *Dimensions*— 12×5.6 mm.

Hab.—Bardoc, West Australia.

A single specimen ($\delta^?$) has been kindly given me by Mr. C. French. The structure of the antennæ, in combination with the sulcate-punctate elytra, would place this species near *A. violaceum* Cart., Sect. ii. A. in my classification. It is quite distinct from all species known to me, nor can it be confounded with

either of the three species described by Herr Gebien (*Die Fauna Süd-west Australiens*. Hamburg, 1905). The combination of foveate-like punctures in elytral striæ, with pronounced raised intervals is very unusual, which with its short broad form and brilliant metallic colouring should render its identification easy.

ADELIMUM GOUDIEI, n.sp. (Text-fig. 9).

Elongate-ovate, copper-bronze, nitid, antennæ, palpi, legs and tarsi reddish.

Head: labrum prominent and truncate, epistoma very convex, oblique and raised at the sides, limited behind by a thin but definite straight suture, this meeting the more strongly indented ocular sutures at right angles, the latter obliquely continued and branched to meet the sides of epistoma; at the junction of clypeal and ocular sutures a seta bearing a long white hair; head rather finely and distantly punctured, punctures becoming finer and scarcer towards the vertex, closely but strongly rugose at base. *Prothorax* convex, wider than long (4×5 mm.), widest at middle, slightly emarginate, anterior angles rectangular, sides widely rounded, slightly sinuate anteriorly, strongly so posteriorly, hind angles a little dentate and rectangular, base and apex lightly bordered, sides with thickened

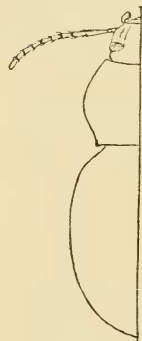


Fig 9.

upturned border, narrowly furrowed, or subfoliate, with a shallow elongate depression at sides of discal portion. Disc minutely and rather closely punctured, with about five large foveate punctures irregularly placed. *Scutellum* transversely triangular. *Elytra* a little wider than prothorax, regularly ovate, convex, shoulders rather squarely rounded, with upturned margin, evident from above at shoulders and apex. Seriate-punctate, with nine rows of punctures, in general very small (like pin-pricks) and irregularly spaced, with a few punctures of larger size. Intervals in general flat and

minutely punctulate, the fifth interval feebly raised. Suture depressed throughout and triangularly so behind scutellum. Epipleuræ minutely, two apical segments of abdomen more distinctly and closely punctulate. Intercoxal process truncate and split in front. Under surface generally smooth and metallic. Intermediate tibiæ bowed, others straight. *Dimensions*—14 × 6 mm.

Hab.—Sea Lake, North-West Victoria.

Three specimens, male, with strongly transverse front tarsi, have been sent me by that enthusiastic collector, Mr. J. C. Goudie, after whom I have named it. A typical member of my Sect. i. A., and closely allied to *A. Lindense* Blackb., it is sufficiently differentiated by its combination of lustrous bronze colour (as *A. ellipticum* Blackb.), with dentate rectangular hind angles to prothorax (as *A. Hackeri* Cart.), and nearly smooth pronotum (as *A. auratum* Pasc.).

ADELIUM SLOANEI, n.sp. (Text-fig. 10).

Elongate-ovate, shining metallic bronze above, antennæ, palpi and tarsi concolorous, bronze-black beneath, highly polished.

Head: labrum prominent and punctulate, epistoma subtruncate, nearly flat, clearly defined behind by semicircular suture, and together with the forehead coarsely and irregularly punctured; part behind the eyes only minutely so. Antennal orbits punctured like the forehead, separated from it by deep suture, and bearing on it a long distinct foveate impression. Eyes large and projecting; antennæ extending beyond the base of prothorax, stout, third joint less than fourth and fifth combined, joints 7-10 obconic and wider than preceding, eleventh ovoid-acuminate. *Prothorax* convex, transverse (2.5 × 4 mm.), widest behind the middle, base slightly wider than apex, apex subtruncate (seen from above), anterior angles scarcely advanced and obtuse, sides widely rounded, abruptly sinuate towards base, posterior angles prominent and rectangular; base truncate; the whole narrowly bordered with smooth upturned

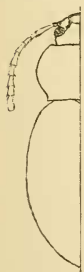
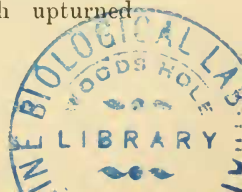


Fig. 10.



margin. Disc coarsely, irregularly punctured, the punctures sometimes coalescing, sometimes separated by smooth shining spaces irregularly shaped and placed; with one or two larger punctures near the antero-central portion of each lobe, and shallow elongate depressions towards the sides; central line faintly (or not at all) indicated by slight depression, without any lateral foliation. *Scutellum* raised, triangular, and punctulate. *Elytra* wider than prothorax at base, shoulders widely rounded, sides subparallel on basal half, then gently rounded to apex; punctate-striate, with ten rows of striae on each elytron, the punctures in striae large, close, and regular (much larger than in *A. calosomoides* Kirby), largest and most exposed on two outside striae; intervals regular, uninterrupted, convex (the strial punctures giving a somewhat crenulate aspect), and minutely punctulate; the third, fifth, seventh and ninth becoming wider and more costiform than the others towards apex, and *sometimes* slightly pustulose (in one specimen rather distinctly so) in this region. Epipleurae with shallow irregularities of surface, scarcely punctulate; underside of femora and apical segment of abdomen finely punctured; tibiae closely and more strongly punctured; tarsi and narrow line on tibiae clothed with pale straw-coloured tomentum. Tibiae enlarged near apex, anterior and intermediate tibiae slightly bowed. Intercoxal process margined and narrowly rounded. *Dimensions*—11 × 4.6 mm.

Hab.—Blayney and Orange, N.S.W.

Three specimens are before me, all, I think, male, two collected at Blayney by Mr. T. G. Sloane, after whom I name it; the third has been for some time unique in my cabinet, labelled "Orange" in the handwriting of the late Dr. C. D. Clark. This species is evidently a member of my Sect. ii., Subsect. C., but is separated from all except *A. pestiferum* mihi, by its pronounced hind angles to prothorax. In only one specimen is the tendency to pustulation of elytral intervals at apex well marked. These characters, together with its metallic (not violet) colour, its subcrenulate intervals, and its raised alternate intervals should render it easy to distinguish.

SEIROTRANA BIMETALLICA, n.sp.

Elongate-ovate, very convex. Head and prothorax shining coppery-bronze, elytra metallic dark green bronze moderately shining, underside and legs dark bronze, shining; antennæ, oral organs and tarsi piceous; basal half metallic, apical dull.

Head: labrum emarginate, narrow and concave towards apex, epistoma prominent, rounded at sides and, together with the front, rugosely punctate, limited behind by well marked furrow, deepest at sides. Forehead flat and terminated hindward by a semicircular ridge behind the eyes, the latter prominent. Antennæ stout, not extending to base of prothorax; third joint little longer than fourth, apical joints slightly larger than the rest, eleventh ovoid. *Prothorax* convex, apex slightly bisinuate, with a feebly indicated depression at the middle, anterior angles a little advanced, rounded and (not widely) obtuse; sides moderately rounded, widest about half-way, then slightly sinuately incurved to the obtuse but distinct posterior angles; base curvilinear bilineal (seen from above), scarcely coarctate, with scutellum distinctly in front of hind angles, closely fitting the elytra; sides entire, and, together with apex, narrowly bordered (apex very narrowly so) with a darker colour, this border disappearing at base. Disc without lateral foliation, central line feebly indicated near base and apex; strongly and closely punctulate, the punctures near centre and apex tending to coalesce and form longitudinal rugosity, but distinct and round towards the sides, with four large shallow depressions in a transverse line across the centre, about equidistant from each other and the sides, the two inner more distinct. *Scutellum* transversely elliptic and punctulate. *Elytra* very convex, wider than prothorax, shoulders obtusely rounded but distinct, with narrow shining border only evident from above near shoulders and apex. Striate-punctate, with ten striæ in pairs on each elytron, the last pair on the sides, the tenth stria, at side, containing larger punctures, these becoming obsolete towards apex, where the margins become horizontal; between the second and third, fourth and fifth, sixth and seventh, eighth and ninth are wide raised convex

intervals broken up into nodules on apical declivity, the intervals bearing one or two punctures on each irregularly placed; sutural interval flat and depressed on disc, raised at apex; the whole surface closely minutely punctulate. Submentum, sides of sternum and epipleuræ bearing large round punctures, abdomen longitudinally strigose, distinctly punctured only on two apical segments. Legs short, all tibiæ curved, tarsi and apex of tibiæ clothed with dark golden pile. *Dimensions*—14 × 6 mm.

Hab.—Gingkin, near Oberon, N.S.W.

One specimen (♂) of this fine insect was captured by my son, R. B. Carter, in January, 1909. Though belonging to Group ii., of my classification, (These Proceedings, Vol. xxxiii., Part 2, p.398) it stands by itself in its striking bicoloration, and the smooth, subcostate elytral intervals.

BRYCOPIA CHEESMANI, n.sp.

Oval, violet-brown, shining. Antennæ, palpi, and tarsi pale red.

Head: labrum prominent, epistoma truncate with rounded angles, coarsely punctulate and very nitid, front rather concave, more distantly punctulate than epistoma and sharply separated from it by transverse and lateral sutures. Antennæ short, scarcely reaching base of prothorax, joints successively larger to apex, third joint longer and thinner than fourth, joints 4-10 bead-like, apical joint the largest and ovoid. Eyes large, round and not very prominent. *Prothorax* transverse, truncate in front and behind, widest at middle, anterior angles slightly advanced, obtuse; sides regularly rounded, and a little sinuate near the obtuse posterior angle. Sides and base narrowly bordered. Sides not explanate but a little emphasised near the middle by longitudinal foveæ. Disc regularly, shallowly punctulate (as on front). *Scutellum* raised, triangular and punctulate. *Elytra* widely ovate, moderately convex, wider than prothorax, shoulders rounded, sides tapering near apex; striate-punctate, each elytron with ten shallow striæ, punctures in striæ round and close. Intervals quite flat and finely punctured. Elytra pro-

longed forward in the scutellary region. Sternum and epipleuræ deeply and coarsely punctulate. Abdomen coppery and more finely punctulate. All tibiæ slightly bowed and attenuated. *Dimensions*— 8×3.1 mm.

Hab.—Moruya, N.S.W. and Victorian Alps.

Two specimens sent by Mr. G. Cheesman, after whom I name this insect. In general appearance it is somewhat like a small *Adelium reductum* Pasc., but the elytral intervals are much flatter. A third specimen has since been taken by the author in the Victorian Alps.

BRYCOPIA FEMORATA, n.sp.

Elongate-elliptic, rather narrow, bronze above, black beneath, the whole very nitid; antennæ, palpi, labrum, knees and tibiæ red, tarsi pale red, apical parts of femora, except knees, pale yellow.

Head rather narrow, labrum emarginate and rounded at apex, epistoma distinct and round, limited by a furrow, concave (from front view), forehead grooved between the eyes, and, together with epistoma, finely punctulate, eyes large, not so prominent as in *B. tuberculifera* Champ., antennæ extending to the base of prothorax, slightly thickening outwardly, apical joint longest and a little wider than tenth, ovoid. *Prothorax* subquadrate, convex, a little broader than long, subtruncate at apex, bisinuate at base, sides a little rounded anteriorly, gently and evenly converging behind; greatest width near front angles, these obtusely rounded and deflected; hind angles subrectangular; disc finely and closely punctured, without any indication of central line, with a few setiferous impressions, of which two can be seen on margin at each side, two evenly placed a little in front of centre. *Scutellum* small and semicircular. *Elytra* wider than, and about two and one-quarter times as long as prothorax, narrowly elongate-oval, punctate-striate, with about ten rows of small, closely approximate punctures placed in fine striæ, the intervals flat, closely dotted with punctures distinctly smaller than those in striæ, and with about ten larger setiferous punctures promiscuously scattered thereon. (In the type-specimen there are six more regular than the rest, three each on the third interval.) Underside finely

punctured. Femora swollen, with upper surface curved, front tibiæ curved, others straight. *Dimensions*—8 × 2·8 mm.

Hab.—Warburton District, Victoria.

I found this very distinct and interesting specimen (♂), alas! unique, amongst some heteromera kindly given me by that very enthusiastic entomologist, Mr. C. French, of the Victorian Department of Agriculture. It seems that *Brycopia* is likely to form as varied and numerous a genus as *Adelium* and *Seivotrana*; in this case presenting similar features in its femoral adornment to *S. geniculata* Haag-Rut., and *S. femoralis* Macl. It is otherwise allied, in form of prothorax and general shape, to *B. tuberculifera* Champ., from Tasmania, which is, however, a larger and more robust insect.

Table of *Brycopia*.

- A. Sides of prothorax *not* or *very slightly* rounded.
- b.* Elytra tuberculate..... *tuberculifera* Champ.
- bb.* Elytra non-tuberculate.
- c.* Colour black.
- Elytral intervals subconvex *longipes* Macl.
- Elytral intervals smooth..... *dubia* Macl.
- cc.* Colour bronze.
- Femora unicolorous pale red..... *minor* Cart.
- Femora with apical half pale yellow... *femorata* Cart.
- AA. Sides of prothorax distinctly rounded near middle.
- d.* Prothorax crenulate at sides.
- Surface pilose..... *pilosella* Pasc.
- Surface non-pilose *crenaticollis* Cart.
- dd.* Prothorax *not* crenulate at sides.
- e.* Colour black.
- Elytral intervals subconvex (2·4 wider than rest).. *Taylori* Cart.
- Elytral intervals sharply ridged..... *monilicornis* Macl.
- ee.* Colour bronze.
- Prothorax canaliculate... *parvula* Macl.
- Prothorax not canaliculate.
- Prothorax very convex, size 5·5 mm..... *globulosa* Cart.
- Prothorax less convex, size 8 mm *Cheesmani* Cart.
- eee.* Bicolorous (elytra black, prothorax purplish).
- Size smaller than above (4 mm.)..... *minuta* Lea.